SAFETY DATA SHEET: PHOSPHORUS PENTOXIDE

1. IDENTIFICATION

Product Name: PHOSPHORUS PENTOXIDE
Synonyms: Phosphoric anhydride; Phosphorus (V) oxide
Formula and Formula Weight: P2O5 141.94
Integra numbers beginning with: P387.10
Recommended Use: Commercial/industrial use
Restrictions on Use: No information available

INTEGRA Chemical Company
24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)
1216 6th Ave N
Kent WA 98032
Phone: 253-479-7000

2. HAZARDS IDENTIFICATION

OSHA Classification:
Acute Toxicity - Inhalation: 2 Fatal if inhaled.
Skin Corrosion/Irritation: 1A Causes severe skin burns and eye damage.
Eye Damage/Irritation: 1 Causes serious eye damage.

Precautionary Statements

Prevention:
Do not breathe dust, fume, gas, mist, vapors, spray. Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
Wear protective gloves, protective clothing, eye protection, face protection. Wear respiratory protection.

Response
If swallowed: Rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water, shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center, doctor.
Specific treatment (see first aid section on this label)
Wash contaminated clothing before reuse.

Storage
Store locked up in a well ventilated place. Keep container tightly closed.

Disposal
Dispose of contents, container in accordance with all governmental regulations.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Synonyms</th>
<th>CAS #</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus pentoxide</td>
<td>Phosphoric anhydride; Phosphorus (V) oxide</td>
<td>01314-56-3</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult administer oxygen. Seek medical attention.

Eye Contact: Flush eyes with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek immediate medical attention.

Skin Contact: Immediately remove contaminated clothing. Flush skin with water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Aspiration hazard. If swallowed, do not induce vomiting. Rinse mouth and give victim water or milk. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Additional notes: Fatal if inhaled. Symptoms and effects include skin, eye burns and damage; nausea, vomiting, gastrointestinal irritation, burns to the mouth and throat, brown or yellow stains will form around the mouth, tongue may swell; aspiration may cause chemical pneumonitis; damage to upper respiratory tract and mucous membranes.

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Dry chemical or carbon dioxide. Do not use water.
Special Equipment and Precautions: Use water to cool nearby containers and structures. Wear full protective equipment, including suitable respiratory protection.
Specific Hazards: Fire conditions may liberate toxic and noxious fumes. Reacts violently with water to form phosphoric acid and heat, which may ignite other materials.
Hazardous combustion products: Oxides of phosphorus.

6. ACCIDENTAL RELEASE MEASURES
Spill Procedures: Prevent spread of spill. Wear suitable protective equipment. Mix with an excess of soda ash or lime. Sweep or scoop without creating dusts into suitable container and save for disposal. Do not flush residues with water. Do not release to environment.

7. HANDLING AND STORAGE
Incompatible Materials: Water, inorganic bases, iodides, metals, oxidants, ammonia, calcium oxide, formic acid, hydrogen fluoride, methyl hydroperoxide, 3-propynol, sodium carbonate, peroxides, alcohols, ammonia.
Storage and Handling: Store locked up in a cool, dry, well-ventilated corrosive materials storage area away from incompatible materials. Keep containers tightly closed and protect them from physical damage. Minimize exposure to air and light. Keep away from moisture and other incompatibles.
Do not breathe dust, fume, gas, mist, vapors, spray. Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
Wear protective gloves, protective clothing, eye protection, face protection. Wear respiratory protection.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION
OSHA & ACGIH Exposure Limits:
Phosphorus pentoxide None identified
Engineering Controls: Use adequate general or local exhaust ventilation to keep fume and/or dust levels as low as possible.
Respiratory Protection: A NIOSH approved respirator with a particulate filter should be worn at all times.
Skin/Eye Protective Equipment: Safety goggles, face shield, chemical-resistant gloves and protective clothing appropriate for the risk of exposure.
Facilities storing or utilizing this material should have readily accessible eyewash stations and safety showers. Select respirators and other safety equipment in accordance with regulations and based upon the particular conditions of use and risk of exposure. Always use safe chemical-handling and good industrial hygiene practices.

9. PHYSICAL AND CHEMICAL PROPERTIES
Apearance: White crystals or powder; very deliquescent.
Odor: Sharp pungent odor
Odor Threshold: Not available
pH: 1.5 at 10 g/l at 20 °C
Melting/Freezing Point: 340 °C
Initial Boiling Point and Boiling Range: Not available
Flash Point: Not available
Evaporation Rate: Not available
Flammability: Nonflammable
Flammable or Explosive Limits (% by volume in air)
Upper: Not available
Lower: Not available
Vapor Pressure: 1 mm Hg @384°C
Vapor Density: 4.90
Relative Density: 2.39 g/cc
Solubility: Exothermic reaction with water
Partition Coefficient: n-octanol/water Not available
Auto-Ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available

10. STABILITY AND REACTIVITY
Reactivity: No information available
Stability: Stable
Possibility of Hazardous Reactions: Hazardous polymerization will not occur
Conditions to Avoid: Moisture.
Incompatibles: Water, inorganic bases, iodides, metals, oxidants, ammonia, calcium oxide, formic acid, hydrogen fluoride, methyl hydroperoxide, 3-propynol, sodium carbonate, peroxides, alcohols, ammonia.
Decomposition Products: Oxides of phosphorus.

11. TOXICOLOGICAL INFORMATION
Effects of Over Exposure:
Inhalation: Harmful or fatal if inhaled. Results in damage to upper respiratory tract and mucous membranes. Symptoms include irritation of nose and throat, shortness of breath. May cause pulmonary edema.
Skin Contact: Contact may cause severe irritation or burns. Redness and pain may result. Burns penetrate the skin with sharply defined edges and heal slowly.
Eye Contact: Contact may burn or damage the eyes.
Ingestion: Harmful or fatal if swallowed. Causes nausea, vomiting, gastrointestinal irritation, burns to the mouth and throat. Brown or yellow stains will form around the mouth. Tongue may swell and cause suffocation. Aspiration may cause chemical pneumonitis.
Target Organs: No information available
Additional Effects: May aggravate pre-existing skin disorders, eye problems, or impaired liver, kidney or respiratory functions.
Reproductive Effects: No information available
Carcinogenicity: None identified

**Toxicity Data:**
- Phosphorus pentoxide: LC50 (inhalation, rat) 1217 mg/m³/1H, LC50 (inhalation, mouse) 271 mg/m³/1H

**12. ECOLOGICAL INFORMATION**

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<thead>
<tr>
<th>Phosphorus pentoxide</th>
<th>Aquatic Toxicity Data: No information available</th>
<th>Terrestrial Toxicity Data: No information available</th>
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</thead>
</table>

**13. DISPOSAL CONSIDERATIONS**
Disposal Procedures: Dispose of material and containers in accordance with all local, state and federal regulations.

**14. TRANSPORTATION INFORMATION**

This product is a regulated material for domestic ground transportation, per CFR Title 49.

- UN Number: UN1807
- Proper Shipping Name: Phosphorus pentoxide
- Packing Group: II
- Hazard Class: 8
- Environmental hazards: No information available
- Special precautions: No information available
- Bulk transport: No information available

**15. REGULATORY INFORMATION**
Phosphorus pentoxide is listed in the TSCA inventory.

**16. OTHER INFORMATION**

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NE = Not established, NA = Not applicable or Not available

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***** END OF SDS *****